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EXAMINER

POON, KING Y

ART UNIT	PAPER NUMBER
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2624

DATE MAILED: 07/23/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/521,723

Applicant(s)

MAZZA, SAM

Examiner

King Y. Poon

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-20 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) ____ is/are allowed.
- 6) ☒ Claim(s) 1-20 is/are rejected.
- 7) ☐ Claim(s) ____ is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 09 March 2000 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner. see PTO 948
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892) 4) ☐ Interview Summary (PTO-413) Paper No(s). ____.
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948) 5) ☐ Notice of Informal Patent Application (PTO-152)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) ____ 6) ☐ Other: ____.

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DETAILED ACTION

1. The declaration and power of attorney filed on 7/10/2000 has been received.

Specification

2. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.
3. The disclosure is objected to because of the following informalities: interpreter 111 should be interpreter 114 on page 4, line 21. See drawings and page 5, lines 12-13, specification.

Appropriate correction is required.

Claim Objections

4. Claim 2 is objected to because of the following informalities: the word "or" in claim 2 may have been misspelled because it does not make sense for the method to further comprising a step without specifying the step. Appropriate correction is required.

Claim Rejections - 35 USC § 102

5. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

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A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 15, 16, 18-20 are rejected under 35 U.S.C. 102(b) as being anticipated by Kageyama (US 5,303,336).

Regarding claim 15: Kageyama teaches a system (print server, column 9, line 6) for interpreting data (column 6, line 45) from machine readable form (read by the command processing part, column 6, lines 42-45) to at least one human readable format, (the data that is printed, column 5, lines 29-32) the system comprising: a detector (printing protocol discrimination part, column 6, lines 32-35, and printing protocol switching part, column 6, lines 36-42) for detecting from information in incoming blocks of data (1521, 1522, column 6, lines 30-35) one or more formats (the protocol/format of the printing command before being changed to print data, column 6, lines 30-47) in which it is desired to display (print, column 6, lines 48-50, display and print are the same in printing art; a printer prints an image and a printer display an image has the same meaning) the blocks; a plurality of formatters, (command processing programs, column 6, lines 35-40) each of the formatters interfacing with the detector using a standard interface (file part 16A, column 9, lines 63-64; printing protocol switching part (part of the detector) reads out the formatter/command processing program from the file part 16A; therefore, file part 16A is having the connecting point/interface between the formatter and the printing protocol switching part); means (reading function part of the printing protocol switching part, column 9, lines 63-65,

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fig. 4) within the detector for invoking (read out the formatter/command processing program) all formatters required to format the incoming blocks into the one or more formats, (column 6, lines 43-48) and means for loading (server communication part 161, column 6, lines 25-30) the formats (data 1521 and 1522 with the data format, column 6, lines 14, column 6, lines 26-32) into an interpreter, (the command buffer part and the command processing part, column 6, lines 25-32) and for subsequently (in proper order, column 6, lines 17-25) sending the incoming blocks (1521, 1522, column 6, lines 25-32) to the interpreter (the command buffer part and the command processing part, column 6, lines 25-32).

Note: when a controlling device is performing a certain function such as reading data, inherently, the controlling device must have program codes or hardware that performs the function such as the reading function.

Regarding claim 16: Kageyama teaches wherein the means for invoking invokes plural formatters (reads in different formatters/command processing programs for different protocol, column 9, lines 55-68) to operate on the same incoming data stream. (The data streams that comprises, e.g., data 1521, and 1522)

Regarding claim 18: Kageyama teaches a system (print server, column 9, line 6) for processing incoming blocks of data (document data block 1521, 1522, column 9, lines 55-60) wherein the intermixed blocks (1521, 1522, column 9, lines 55-60) include blocks to be formatted by different formatters, (different data block with different protocol is to be processed by different formatters/command processing programs, column 9, lines 55-58) the system comprising; a

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detector (printing protocol discrimination part, column 6, lines 32-35) for checking a tag (identifier, e.g., 1521a and 1522a, column 6, lines 32-35) contained within each block of data, the tag being indicative of how to format the incoming data (how to change the printing command in the document data to printing data by using different formatters/command processing programs, column 6, lines 35-47); means (the function part of the command processing part that process the data (document data) read out of the command by using the selected command processing program, column 10, lines 1-10) responsive to the detector (the process of the data using the selected command processing program is in responsive to detected printing protocol, column 9, lines 55-68, column 10, lines 1-10) for routing the data (note) to be formatted (interpretation and execution of the data, column 6, lines 45-47) to the proper formatting software (the selected command processing programs, column 10, lines 1-10); and means (printing protocol switching part, column 9, lines 63-65, fig. 4) for invoking (read in the selected command processing program, column 9, lines 63-68) the proper formatting software using a standard interface (file part 16A, column 9, lines 63-64; printing protocol switching part reads out the formatter/command processing program from the file part 16A; therefore, file part 16A has the connecting point/interface between the formatter and the printing protocol switching part) common to all of the different formatters (the command processing programs are stored in the file part, column 9, lines 63-65) to format the incoming blocks of data.

Note: When the function part of the command processing part processes the data (document data) read out of the command by using the selected command processing program,

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column 10, lines 1-10, the data (document data) is diverted/routed/ to the selected command processing program.

When a controlling device is performing a certain function, inherently, the controlling device must have program codes or hardware that performs the function.

Regarding claim 19: Kageyama teaches wherein the means (printing protocol switching part, column 9, lines 55-67) for invoking includes loading (column 9, lines 65-68) software from storage (the memory that stores the file part/command processing programs, column 9, lines 65-68, column 9, lines 44-46) to an interpreter (command processing part, column 9, lines 65-68)

Regarding claim 20: Kageyama teaches wherein the means for invoking includes a switch (the function part of the printing protocol switching part that loads the command processing program into the command processing part) for routing (directing) incoming data (the data flow from the command buffer to the command processing part, column 10, lines 1-10) to one of plural preloaded formatters. (The command processing program preloaded in the file part, column 9, lines 63-68) (after the switching/loading, the incoming data is directed to/processed by the selected command processing program; without switching/loading, the incoming data cannot be directed to/processed by the selected command processing program)

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Claim Rejections - 35 USC § 103

7. Claims 1-5, 11-14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama et al. (US 5,303,336).

Regarding claim 1: Kageyama teaches a method of presenting data (document data, column 4, lines 45-51) to a viewing entity (print server 14, column 4, lines 52-55) having a viewer, (command processing part, 163, column 6, lines 43-47) comprising the steps of: providing unformatted data (non converted document data, that is transmitted from terminals, column 4, lines 46-51, which is to be converted, column 8, lines 11-20) to the viewing entity, (print server 14, column 4, lines 52-55) the data comprising one or more unformatted data portions (e.g., 1521, 1522, column 4, lines 55-60) required to be converted into a format (the format of the common command of the document data, column 8, lines 10-20, converted from printing command) viewable (executable by the command processing part, column 8, lines 11-16, column 6, lines 43-47) to the viewer; providing a plurality of formatters, (command conversion programs corresponding to the different printing protocols of the print data, column 8, lines 15-20, column 6, lines 32-34) each of which being capable of formatting one or more of the data portions into the format; locating the formatters by the viewer for each of the unformatted data portions (since the command conversion/interpretation is carried out by the command processing part using prepared conversion programs corresponds to different printing protocols, column 8, lines 11-20, the command processing part must first locate the program before the command processing part can use the program; also see column 6, lines 32-50, and column 7, lines 60-65); and formatting

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(converted, column 8, line 14) each of the portions (e.g., document data 1521, 1522, column 6, lines 26-35) by the located formatters (conversion program, column 8, line 17) whereby the data portions are converted to the format (the format of the common command, column 8, line 16; since the common command is converted from the printing command; inherently, the common command and the printing command are in different data format) viewable to the viewer (command processing part, column 8, lines 13, column 6, lines 43-47).

Kageyama does not teach the command processing part, in the first embodiment, is implemented in software. (Column 3, lines 17, specification of this application defines the viewer is implemented in software)

However, Kageyama, in column 16, lines 1-5, fifth embodiment, teaches the command processing part is preferably composed of a program/software, and the program can be used to run other program such as the character code processing program (Column 15, lines 59-68).

Since Kageyama teaches a program is used because the program can be extended/added function (extensibility, column 16, line 2; for example, command processing part is added with a character code processing functions by running a character code processing program, column 15, lines 59-68), and the command processing part, in the first embodiment of Kageyama runs another program/command conversion program in the command processing part; it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Kageyama's command processing part to include: implementing the command processing part of Kageyama using software to run the command conversion program.

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It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Kageyama's command processing part because of the following reasons: (a) it would have allowed the command processing part to be extended by the command conversion program; (b) replacing a defective hardware cost more compare to downloading software because once the software is created, it would be downloaded multiple times, while broken hardware must be replaced with new ones each time; and (c) it is much easier to update the software, such as downloading the updated software from the Internet, compares to upgrading the hardware.

Regarding claim 2: Kageyama teaches a step of providing identifiers (identifiers, column 4, lines 46-51, column 6, lines 32-35) for each of the data portions (e.g., document data 1521 and 1522, column 6, lines 32-35).

Regarding claim 3: Kageyama teaches wherein the identifiers (identifiers, column 4, lines 46-51, column 6, lines 32-35) are tags (identifier and tag are the same thing) included in the data portions (e.g., document data 1521 and 1522, column 6, lines 32-35).

Regarding claim 4: Kageyama teaches wherein the step of locating formatters is implemented by making use of the identifiers (the command processing part 163 discriminates protocol identifier in the data, column 5, lines 1-5, and process the print command of the data using conversion program corresponds to the identified protocol, column 8, lines 11-21).

Regarding claim 5: Kageyama teaches wherein the formatters are plug-able into the viewer. (As discussed in claim 1, the viewer/command processing program runs the command

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conversion program/formatter; therefore, the formatter/command conversion program is plugged into the viewer/command processing program).

Regarding claim 11: Kageyama teaches a system (print server 14, column 5, line 17) for formatting (converting, column 8, lines 12-15) unformatted data (document data before conversion, column 8, lines 13-15) having one or more unformatted portions (document data 1521, 1522, column 6, lines 25-30) to be viewable (executable by the command processing part, column 8, lines 11-16, column 6, lines 43-47) to a viewer, (command processing part, column 8, line 13) comprising: conversion means (command conversion programs, column 8, lines 15-20, and the memory that store the command conversion means; inherently a program is located in a memory) for converting the data portions (document data before conversion, column 8, lines 13-15, e.g., document data 1521, 1522, column 6, lines 25-30) into a format (the format of the common command, column 8, lines 14-15; since the common command is converted from the printing command; inherently, the common command and the printing command are in different data format) viewable to the viewer, identifying means (printing protocol discriminating means, column 5, lines 1-3) for identifying each of the data portions (column 6, lines 32-35); locating means (the command processing part identifies the printing protocol, column 5, lines 1-5, and the command conversion is carried out, in the command processing part, by using different command conversion programs corresponding to the identified printing protocol, column 8, lines 10-20; therefore, the command processing part must have a function part that locates the memory location of the memory where the program is being stored) for the viewer, by using the identifying

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means, (printing protocol discrimination part, column 5, lines 1-3) to locate the conversion means (command conversion programs, column 8, lines 15-20, and the memory that stores the command conversion means) for each of the data portions (document data 1521, 1522, column 6, lines 25-30) whereby the each data portion is converted at the viewer by the conversion means into the format viewable to the viewer (Column 8, lines 10-20).

Kageyama does not teach the command processing part, in the first embodiment, is implemented in software. (Column 3, lines 17, specification of this application defines the viewer is implemented in software)

However, Kageyama, in column 16, lines 1-5, fifth embodiment, teaches the command processing part is preferably composed of a program/software, and the program can be used to run other program such as the character code processing program (Column 15, lines 59-68).

Since Kageyama teaches a program is used because the program can be extended/added function (extensibility, column 16, line 2; for example, command processing part is added with a character code processing functions by running a character code processing program, column 15, lines 59-68), and the command processing part, in the first embodiment of Kageyama runs another program/command conversion program in the command processing part; it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Kageyama's command processing part to include: implementing the command processing part of Kageyama using software to run the command conversion program.

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It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Kageyama's command processing part because of the following reasons: (a) it would have allowed the command processing part to be extended by the command conversion program; (b) replacing a defective hardware cost more compare to downloading software because once the software is created, it would be downloaded multiple times, while broken hardware must be replaced with new ones each time; and (c) it is much easier to update the software, such as downloading the updated software from the Internet, compares to upgrading the hardware.

Kageyama also does not teach the conversion means being separately located from the viewer.

However, Kageyama, fig. 4, teaches command processing programs (16A1-16A3) run by the viewer/command processing part (163a) are being separately located from the viewer to reduce the memory requirement of the command processing part. (Column 9, lines 10-16, column 9, lines 40-45)

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Kageyama's command processing part to include: the conversion means being separately located from the viewer.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Kageyama's command processing part because of the following reasons: (a) it would have reduced the memory requirement for storing the command

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processing part/software, and (b) reduce in memory would reduce the cost of implementing the viewer.

Regarding claim 12: Kageyama teaches wherein the conversion means (command conversion programs, column 8, lines 15-20, and the memory for storing the command conversion means) comprises a plurality of formatters, (command conversion programs, column 8, lines 15-20) each of which being capable of converting at least one of the data portions (document data, e.g., 1521, 1522, column 6, lines 25-30) into the format. (The format of the common command, column 8, lines 10-20)

Regarding claim 13: Kageyama teaches wherein the formatters are plug-able in the viewer. (As discussed in claim 11, the viewer/command processing program runs the command conversion program/formatter; therefore, the formatter/command conversion program is plugged into the viewer/command processing program).

Regarding claim 14: Kageyama teaches wherein the identifying comprises a plurality of tags (e.g., identifiers 1521a and 1522a, column 6, lines 32-35) each of which identifies one of the data portions. (E.g., 1521 and 1522, column 6, lines 32-35)

8. Claims 6-10 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama et al (US 5,303,336) in view of Nagasaka (US 5,511,156).

Regarding claim 6: Kageyama teaches a method of presenting data (document data, column 4, lines 45-51) to a viewer (command processing part, 163, column 6, lines 43-47),

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comprising the steps of: providing unformatted data (non converted document data, that is transmitted from terminals, column 4, lines 46-51, which is to be converted, column 8, lines 11-20) to the viewer, the data including a plurality of unformatted data portions (e.g., the unconverted data 1521, 1522, column 6, lines 25-35); providing a plurality of formatters, (conversion programs, column 8, lines 10-20) each of which being capable of formatting one or more data portions (printing command in the document data, column 8, lines 10-15) into at least one format (the format of the common command, column 8, lines 15-17; since the common command is converted from the printing command; inherently, the common command and the printing command are in different format) viewable (executable by the command processing part, column 8, lines 11-16, column 6, lines 43-47) to the viewer; locating (since the command conversion/interpretation is carried out by the command processing part using prepared conversion programs corresponds to different printing protocols, column 8, lines 11-20, the command processing part must first locate the program before the command processing part can use the program; also see column 6, lines 32-50, and column 7, lines 60-65) by the viewer, for each data portion (e.g., the document data, column 8, lines 11-16, that is to be converted) that required to be viewable (executable by the command processing part, column 8, lines 11-16, column 6, lines 43-47) to the viewer, a formatter (the command conversion program corresponds to the protocol of the document data, column 8, lines 15-21, column 6, lines 32-35) capable of converting the each data portion to a format (the format of the common command, column 8, lines 14-16) viewable (executable by the command processing part, column 8, lines 11-16, column

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6, lines 43-47) to the viewer (command processing part, column 8, line 13); formatting (converting, column 8, line 14) each data portion (e.g., the document data, column 8, lines 11-16, that is to be converted) by the located formatter (the conversion program that is being used, column 8, lines 15-21) whereby all of the unformatted data portions (e.g., the document data, column 8, lines 11-16, that is to be converted) can be formatted at the viewer by the relevant formatters into formats viewable to the viewer.

Kageyama does not teach the command processing part, in the first embodiment, is implemented in software. (Column 3, lines 17, specification of this application defines the viewer is implemented in software)

However, Kageyama, in column 16, lines 1-5, fifth embodiment, teaches the command processing part is preferably composed of a program/software, and the program can be used to run other program such as the character code processing program (Column 15, lines 59-68).

Since Kageyama teaches a program is used because the program can be extended/added function (extensibility, column 16, line 2; for example, command processing part is added with a character code processing functions by running a character code processing program, column 15, lines 59-68), and the command processing part, in the first embodiment of Kageyama runs another program/command conversion program in the command processing part; it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Kageyama's command processing part to include: implementing the command processing part of Kageyama using software to run the command conversion program.

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It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Kageyama's command processing part because of the following reasons: (a) it would have allowed the command processing part to be extended by the command conversion program; (b) replacing a defective hardware cost more compare to downloading software because once the software is created, it would be downloaded multiple times, while broken hardware must be replaced with new ones each time; and (c) it is much easier to update the software, such as downloading the updated software from the Internet, compares to upgrading the hardware.

Kageyama also does not teach presenting data to a plurality of viewers such that all of the unformatted data portion can be formatted at relevant viewers.

Nagasaka, in the same area of formatting data (converting intermediate code into raster image, column 7, lines 5-10) portions (column 6, lines 59-60) using a viewer (PDL parallel processing interpreter, column 29, lines 50-52, column 5, lines 43-50) running other programs (e.g., rasterizer 212, column 7, lines 9, column 5, lines 43-45) used to format the unformatted data, (intermediate code) teaches sending data portions (intermediate code portions, column 6, lines 59-60) to a plurality of viewers (PDL parallel processing interpreter, column 6, lines 1-67, column 7, lines 1-4) such that all of the unformatted data portion (intermediate code portions) can be formatted at relevant viewers (Column 7, lines 5-15) at the same time. (Column 6, lines 25-30)

Therefore, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Kageyama's presenting data method to include:

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presenting data to a plurality of viewers such that all of the unformatted data portion can be formatted at relevant viewers at the same time.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified Kageyama's data presenting method by the teaching of Nagasaka because of the following reasons: (a) it would have allowed Kageyama's data processing to realize a high speed and high density processing, as taught by Nagasaka at column 2, lines 18-20, especially when the viewer is implemented in software, Nagasaka, column 2, lines 5-17; and (b) it would have reduced the memory required to store the formatted data for the viewer as taught by Nagasaka at column 2, lines 20-27.

Regarding claim 7: Kageyama teaches a step of providing a plurality of identifiers (identifiers 1521a, 1522a, column 6, lines 32-35) each of which identifies one of the data portions. (1521 and 1522, column 6, lines 32-35)

Regarding claim 8: Kageyama teaches wherein the identifiers (identifiers 1521a, 1522a, column 6, lines 32-35) are tags (identifiers are tags) included in relevant data portions (1521 and 1522, column 6, lines 32-35).

Regarding claim 9: Kageyama teaches wherein the step of locating is implemented by making use of the identifiers of the data portions (the command processing part 163 discriminates protocol identifiers in the data, column 5, lines 1-5, and process the print command of the data using conversion program corresponds to the identified protocol, column 8, lines 11-21).

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Regarding claim 10: Kageyama teaches wherein the formatters are plug-able into each of viewers that locates them. (As discussed in claim 6, the viewer/command processing program runs the command conversion program/formatter; therefore, the formatter/command conversion program is plugged into the viewer/command processing program).

9. Claim 17 is rejected under 35 U.S.C. 103(a) as being unpatentable over Kageyama as applied to claims 15, 16 above, and further in view of Schoenzeit et al. (US 5,619,624).

Regarding claim 17: Kageyama does not teach wherein the plural formatters are arranged to receive incoming data in parallel.

Schoenzeit, in the same area of processing image data for a printer (column 1, lines 10-33) using a formatter implemented in software (RIP, column 2, lines 1-5), teaches to use a plural formatters (multiple instances of the same RIP, column 2, lines 1-5) arranged to receive incoming data (graphic image files, column 2, lines 1-5) in parallel.

Since the document data of Kageyama is to be processed by plural formatters, it would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the system of Kageyama to include: providing (by loading) a plural formatters at the same time such that the plural formatters are arranged to receive incoming data in parallel.

It would have been obvious to a person with ordinary skill in the art at the time the invention was made to have modified the system of Kageyama by the teaching of Schoenzeit because of the following reasons: (a) it would have reduced the document processing time; and

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(b) it would have reduced the print waiting time for the print engine, fig. 2A, Kageyama, when the print engine prints faster than formatting time of the formatter.

Conclusion

10. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Bain et al. (US 5,287,434) teaches printing document data of different format.

Kuchta (US 5,807,777) teaches extended printer control interface.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to King Y. Poon whose telephone number is (703) 305-0892

July 21, 2003

King Y. Poon